HIGH-SPEED PHOTOGRAPHY

The fastest known speed of a mechanical object at the present time is 200 feet per second, or 0.024 inch per microsecond. To photograph these motions effectively, methods of high speed photography have been developed.

It has been found that there are two methods of producing high speed photography. One of them involves the use of high speed mechanical shutter. The other employs a slow shutter and a flash of light of short duration. Since the second of these is more practical and less expensive it is being used.

In order that the process be satisfactory, the duration of the flash of light should be short enough to "stop" any mechanical action; the light should be adaptable to synchronization with the object being photographed; the unit should be light in weight and portable; the operation of the unit should be simple.

Such a unit has been recently developed. The circuit of the photolight contains the capacitor which stores energy, and a switching arrangement which releases the energy through the lamp. The lamp may be flashed through a switch placed directly in the discharge circuit or by the use of a thyratron.

At present the photolight is capable of photographing 20 square feet of area using a camera equipped with F45 lens. Although the life of the photolight is not known, they have been flashed every five seconds for 330,000 times and were still usable at the conclusion of the test.

It has been found that the duration of the photolight is three microseconds. Thus, an object moving 2000 feet per second will have moved 0.072 inch during this time interval. This makes possible clear photographs of fast moving objects.